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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,348	06/23/2003	Pascal Audinot	TIF-33831	1230

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EXAMINER	
HANNON, CHRISTIAN A	

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/601,348	AUDINOT ET AL.	
	Examiner	Art Unit	
	Christian A. Hannon	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 6/23/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 7 & 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi (6,295,445) in view of Nag et al (US 6,606,359).

Regarding claims 1 & 7, Uesugi teaches a receiver comprising analog to digital circuitry for generating a digital representation of a signal at an input (Figure 2, Item 5; Uesugi), adjustable gain control circuitry for receiving a radio signal and outputting an amplified analog signal using a gain determined by a magnitude of the signal at the

input of the analog to digital circuitry (Figure 2, Item 3;Column 3, Lines 50-67; Uesugi) and a digital processor circuit for processing the output of said digital representation (Figure 2, Item 7; Uesugi). However, Uesugi fails to teach the use of a digital channel filter. Nag et al teach digital filtering circuitry for filtering said digital signal representation (Figure 2, Item 88; Nag et al). It would have been obvious to one of ordinary skill in the art to modify Uesugi in order to add digital channel filtering circuitry, such as that taught by Nag et al, in order to clean up the output digital signal from the analog to digital converter. It is hereby noted that the receiver of claim 1, is analogous to the method of claim 7, and thereby the rejection of claim 1 also reads on claim 7.

In regards to claim 2 & 8, Uesugi and Nag et al teach the receiver of claim 1, furthermore Uesugi teaches wherein the analog to digital circuitry generates an output having a plurality of bit values and the gain applied by the adjustable gain control circuitry is determined responsive to one or more of the bit values (Column 5, Lines 30-35; Uesugi). It is hereby noted that the receiver of claim 2, is analogous to the method of claim 8, and thereby the rejection of claim 2 also reads on claim 8.

5. Claims 3-5, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi and Nag et al as applied to claims 1 & 2 above, and further in view of Zamat (US 6,314,278).

In regards to claim 3, 9 & 10 Uesugi and Nag et al teach the receiver of claim 2. However they both fail to teach that wherein said gain is reduced by a first amount responsive to a most significant of said bit values indicating that the analog to digital converter has exceeded a first saturation threshold. Zamat however teaches that

wherein said gain is reduced by a first amount responsive to a most significant of said bit values indicating that the analog to digital converter has exceeded a first saturation threshold (Column 6; Lines 8-16; Zamat). It would have been obvious to combine Uesugi and Nag et al to include MSB saturation threshold control, such as that taught by Zamat, in order to make the system more efficient. Furthermore the methods of claims 9 & 10 read analogous to the receiver claim of claim 3, and are thereby similarly rejected. It is further noted that a set of value is inclusive of one particular value.

Regarding claim 4, Uesugi, Nag et al and Zamat teach the receiver of claim 3: Furthermore Uesugi teaches that the automatic gain control circuit applies said first gain reduction independent of said digital processing circuitry (Figure 2, Items 7 & 9). Since the "BB PORTION" of Uesugi (Item 7) denotes digital signal processing it is clear that the AGC (Item 9) is independent of the "BB PORTION."

In regards to claim 5, Uesugi, Nag et al and Zamat teach the receiver of claim 3. Furthermore it is noted that it would be obvious when dealing with digital bits to define a second threshold from at least one bit.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi and Nag et al as applied to claims 1 & 2 above, and further in view of Sasaki (US 6,121,828).

Regarding claim 6 Uesugi & Nag et al teach the receiver of claim 2. However they fail to teach wherein said gain is increased responsive to a set of most significant bits of said bit values indicating that the analog to digital converter is below a threshold. Sasaki teaches wherein said gain is increased responsive to a set of most significant

bits of said bit values indicating that the analog to digital converter is below a threshold (Column 6, Lines 8-21; Sasaki). It would have been obvious to combine the receiver of Uesugi & Nag et al to include an increased gain correlated to a threshold value, such as that taught by Sasaki, in order to maintain a more steady signal output.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Marks (US 5,828,328) discloses a high-speed dynamic range extension employing a synchronous digital detector.

Isaksen et al (US 6,510,188) disclose an all-digital AGC circuit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christian A. Hannon
October 4, 2005

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